



**United States Environmental Protection Agency**

**Region 9 Laboratory**

1337 S. 46th Street Building 201

Richmond, CA 94804

**Subject:** Analytical Testing Results - Project R04S42  
SDG: 04063B

**From:** Brenda Bettencourt, Director  
EPA Region 9 Laboratory  
PMD-2

**To:** Chris Lichens  
Site Cleanup Section 4  
SFD-7-4

# Revised Report

Attached are the **revised** results from the analysis of samples from the **Omega Chemical OU2 March 2004 Sampling** project. These data have been reviewed in accordance with EPA Region 9 Laboratory policy.

A full documentation package for these data, including raw data and sample custody documentation, is on file at the EPA Region 9 Laboratory. If you would like to request additional review and/or validation of the data, please contact Vance Fong at the Region 9 Quality Assurance Office.

If you have any questions, please ask for Richard Bauer, the Lab Project Manager at (510)412-2300.

**Analyses included in this report:**

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1,4-Dioxane



United States Environmental Protection Agency  
**Region 9 Laboratory**

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Phone:(510) 412-2300 Fax:(510) 412-2302

**Site Cleanup Section 4**

**Project:** Omega Chemical OU2 March 2004 Sampling

**75 Hawthorne Street  
San Francisco CA, 94105**

**Project Number:** R04S42  
**Project Manager:** Chris Lichens

**SDG:** 04063B  
**Reported:** 07/07/04 09:04

**ANALYTICAL REPORT FOR SAMPLES**

Sample ID	Laboratory ID	Matrix	Date Collected	Date Received
OC2-MW1A-W-0-1	0403009-01	Water	03/02/04 10:30	03/03/04 10:00
OC2-MW1B-W-0-2	0403009-02	Water	03/02/04 11:30	03/03/04 10:00
OC2-00-W-2-3	0403009-03	Water	03/02/04 12:30	03/03/04 10:00
OC2-MW2A-W-0-4	0403009-04	Water	03/02/04 13:30	03/03/04 10:00
OC2-MW4A-W-0-5	0403011-01	Water	03/03/04 08:05	03/04/04 09:30
OC2-MW4A-W-1-6	0403011-02	Water	03/03/04 08:25	03/04/04 09:30
OC2-MW4B-W-0-7	0403011-03	Water	03/03/04 09:00	03/04/04 09:30
OC2-MW4C-W-0-8	0403011-04	Water	03/03/04 09:30	03/04/04 09:30
OC2-MW5A-W-0-9	0403011-05	Water	03/03/04 11:15	03/04/04 09:30
OC2-MW6A-W-0-10	0403011-06	Water	03/03/04 12:40	03/04/04 09:30
OC2-MW6A-W-1-11	0403011-07	Water	03/03/04 12:45	03/04/04 09:30
OC2-MW8A-W-0-12	0403021-01	Water	03/04/04 07:50	03/05/04 10:49
OC2-MW8B-W-0-13	0403021-02	Water	03/04/04 08:15	03/05/04 10:49
OC2-MW8C-W-0-14	0403021-03	Water	03/04/04 08:50	03/05/04 10:49
OC2-MW8D-W-0-15	0403021-04	Water	03/04/04 09:25	03/05/04 10:49
OC2-00-W-2-16	0403021-05	Water	03/04/04 09:30	03/05/04 10:49
OC2-MW9B-W-0-17	0403021-06	Water	03/04/04 11:15	03/05/04 10:49
OC2-MW10A-W-0-18	0403021-07	Water	03/04/04 12:15	03/05/04 10:49
OC2-MW11A-W-0-19	0403021-08	Water	03/04/04 13:05	03/05/04 10:49
OC2-MW7A-W-0-20	0403025-01	Water	03/05/04 08:10	03/08/04 10:35
OC2-MW3A-W-0-21	0403025-02	Water	03/05/04 08:45	03/08/04 10:35
OC2-IDW-W-0-22	0403025-03	Water	03/05/04 09:40	03/08/04 10:35

This is a revised report. The original report (report name: 0403009, 0403011, 0403021, 0403025 FINAL 05 05 04 1644) contained minor errors in quantitation of 1,4-dioxane results. This was caused by the analyst inadvertently failing to update a computer file for one of the initial calibration standards prior to analysis. The results found in this report have been corrected using the appropriate initial calibration factors for quantitation. In some cases no change in the reported value was necessary. In other cases minor changes were made. For example, 1,4-dioxane in sample 0403011-02 was initially reported as 26 ug/L. This has been changed to 25 ug/L in this revised report.4

Samples 0403025-01 and -02 were sampled and shipped Friday 3/5/04 but unavailable for pick up at Fed Ex on Saturday 3/6/04. Samples were finally received on Monday 3/8/04. Sample were received at 9 degrees C, which is outside recommended 0 - 6 degree C range.



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**Semivolatile Organic Compounds by EPA Method 8270C  
EPA Region 9 Laboratory**

Analyte	Result	Qualifiers / Comments	Quantitation Limit	Units	Batch	Prepared	Analyzed	Method
<b>0403009-01 : OC2-MW1A-W-0-1 Water Sampled: 03/02/04 10:30 Received: 03/03/04 10:00</b>								
Semivolatile Organic Compounds by EPA Method 8270C								
1,4-Dioxane	0.5	C1, J	1.0	ug/L	B4C0022	03/04/04	03/05/04	8270C/SOP315
Surrogate: 1,4-Dioxane-d8	4.50		90 %		50-130	"	"	"
<b>0403009-02 : OC2-MW1B-W-0-2 Water Sampled: 03/02/04 11:30 Received: 03/03/04 10:00</b>								
Semivolatile Organic Compounds by EPA Method 8270C								
1,4-Dioxane	0.5	C1, J	1.0	ug/L	B4C0022	03/04/04	03/08/04	8270C/SOP315
Surrogate: 1,4-Dioxane-d8	4.15		83 %		50-130	"	"	"
<b>0403009-03 : OC2-00-W-2-3 Water Sampled: 03/02/04 12:30 Received: 03/03/04 10:00</b>								
Semivolatile Organic Compounds by EPA Method 8270C								
1,4-Dioxane	ND	U	1.0	ug/L	B4C0022	03/04/04	03/05/04	8270C/SOP315
Surrogate: 1,4-Dioxane-d8	4.36		90 %		50-130	"	"	"
<b>0403009-04 : OC2-MW2A-W-0-4 Water Sampled: 03/02/04 13:30 Received: 03/03/04 10:00</b>								
Semivolatile Organic Compounds by EPA Method 8270C								
1,4-Dioxane	41		1.0	ug/L	B4C0022	03/04/04	03/08/04	8270C/SOP315
Surrogate: 1,4-Dioxane-d8	4.05		85 %		50-130	"	"	"
<b>0403011-01 : OC2-MW4A-W-0-5 Water Sampled: 03/03/04 08:05 Received: 03/04/04 09:30</b>								
Semivolatile Organic Compounds by EPA Method 8270C								
1,4-Dioxane	25	J, A3	1.0	ug/L	B4C0087	03/12/04	03/15/04	8270C/SOP315
Surrogate: 1,4-Dioxane-d8	3.92		75 %		50-130	"	"	"
<b>0403011-02 : OC2-MW4A-W-1-6 Water Sampled: 03/03/04 08:25 Received: 03/04/04 09:30</b>								
Semivolatile Organic Compounds by EPA Method 8270C								
1,4-Dioxane	25	J, A3	1.0	ug/L	B4C0087	03/12/04	03/15/04	8270C/SOP315
Surrogate: 1,4-Dioxane-d8	3.68		74 %		50-130	"	"	"
<b>0403011-03 : OC2-MW4B-W-0-7 Water Sampled: 03/03/04 09:00 Received: 03/04/04 09:30</b>								
Semivolatile Organic Compounds by EPA Method 8270C								
1,4-Dioxane	37	J, A3	1.0	ug/L	B4C0087	03/12/04	03/15/04	8270C/SOP315
Surrogate: 1,4-Dioxane-d8	3.86		76 %		50-130	"	"	"



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Analyte	Result	Qualifiers / Comments	Quantitation Limit	Units	Batch	Prepared	Analyzed	Method
<b>0403011-04 : OC2-MW4C-W-0-8 Water Sampled: 03/03/04 09:30 Received: 03/04/04 09:30</b>								
Semivolatiles Organic Compounds by EPA Method 8270C								
1,4-Dioxane	0.7	J, C1, A3	1.1	ug/L	B4C0087	03/12/04	03/15/04	8270C/SOP315
Surrogate: 1,4-Dioxane-d8	4.02		72 %		50-130	"	"	"
<b>0403011-05 : OC2-MW5A-W-0-9 Water Sampled: 03/03/04 11:15 Received: 03/04/04 09:30</b>								
Semivolatiles Organic Compounds by EPA Method 8270C								
1,4-Dioxane	70	A3, J	1.0	ug/L	B4C0087	03/12/04	03/15/04	8270C/SOP315
Surrogate: 1,4-Dioxane-d8	3.86		80 %		50-130	"	"	"
<b>0403011-06 : OC2-MW6A-W-0-10 Water Sampled: 03/03/04 12:40 Received: 03/04/04 09:30</b>								
Semivolatiles Organic Compounds by EPA Method 8270C								
1,4-Dioxane	2.0	A3, J	1.1	ug/L	B4C0087	03/12/04	03/15/04	8270C/SOP315
Surrogate: 1,4-Dioxane-d8	3.71		70 %		50-130	"	"	"
<b>0403011-07 : OC2-MW6A-W-1-11 Water Sampled: 03/03/04 12:45 Received: 03/04/04 09:30</b>								
Semivolatiles Organic Compounds by EPA Method 8270C								
1,4-Dioxane	1.9	A3, J	1.1	ug/L	B4C0087	03/12/04	03/15/04	8270C/SOP315
Surrogate: 1,4-Dioxane-d8	4.03		74 %		50-130	"	"	"
<b>0403021-01 : OC2-MW8A-W-0-12 Water Sampled: 03/04/04 07:50 Received: 03/05/04 10:49</b>								
Semivolatiles Organic Compounds by EPA Method 8270C								
1,4-Dioxane	2.8		1.0	ug/L	B4C0053	03/09/04	03/11/04	8270C/SOP315
Surrogate: 1,4-Dioxane-d8	3.36		67 %		50-130	"	"	"
<b>0403021-02 : OC2-MW8B-W-0-13 Water Sampled: 03/04/04 08:15 Received: 03/05/04 10:49</b>								
Semivolatiles Organic Compounds by EPA Method 8270C								
1,4-Dioxane	ND	U	1.0	ug/L	B4C0053	03/09/04	03/11/04	8270C/SOP315
Surrogate: 1,4-Dioxane-d8	3.31		64 %		50-130	"	"	"
<b>0403021-03 : OC2-MW8C-W-0-14 Water Sampled: 03/04/04 08:50 Received: 03/05/04 10:49</b>								
Semivolatiles Organic Compounds by EPA Method 8270C								
1,4-Dioxane	ND	U	1.0	ug/L	B4C0053	03/09/04	03/11/04	8270C/SOP315
Surrogate: 1,4-Dioxane-d8	3.06		63 %		50-130	"	"	"



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Analyte	Result	Qualifiers / Comments	Quantitation Limit	Units	Batch	Prepared	Analyzed	Method
<b>0403021-04 : OC2-MW8D-W-0-15 Water Sampled: 03/04/04 09:25 Received: 03/05/04 10:49</b>								
Semivolatile Organic Compounds by EPA Method 8270C								
1,4-Dioxane	ND	U	1.1	ug/L	B4C0053	03/09/04	03/11/04	8270C/SOP315
Surrogate: 1,4-Dioxane-d8	4.08		74 %		50-130	"	"	"
<b>0403021-05 : OC2-00-W-2-16 Water Sampled: 03/04/04 09:30 Received: 03/05/04 10:49</b>								
Semivolatile Organic Compounds by EPA Method 8270C								
1,4-Dioxane	ND	U	1.0	ug/L	B4C0053	03/09/04	03/11/04	8270C/SOP315
Surrogate: 1,4-Dioxane-d8	3.26		68 %		50-130	"	"	"
<b>0403021-06 : OC2-MW9B-W-0-17 Water Sampled: 03/04/04 11:15 Received: 03/05/04 10:49</b>								
Semivolatile Organic Compounds by EPA Method 8270C								
1,4-Dioxane	0.6	C1, J	1.1	ug/L	B4C0053	03/09/04	03/11/04	8270C/SOP315
Surrogate: 1,4-Dioxane-d8	4.07		75 %		50-130	"	"	"
<b>0403021-07 : OC2-MW10A-W-0-18 Water Sampled: 03/04/04 12:15 Received: 03/05/04 10:49</b>								
Semivolatile Organic Compounds by EPA Method 8270C								
1,4-Dioxane	6.0		1.1	ug/L	B4C0053	03/09/04	03/11/04	8270C/SOP315
Surrogate: 1,4-Dioxane-d8	3.02		54 %		50-130	"	"	"
<b>0403021-08 : OC2-MW11A-W-0-19 Water Sampled: 03/04/04 13:05 Received: 03/05/04 10:49</b>								
Semivolatile Organic Compounds by EPA Method 8270C								
1,4-Dioxane	ND	U	1.1	ug/L	B4C0053	03/09/04	03/12/04	8270C/SOP315
Surrogate: 1,4-Dioxane-d8	2.97		53 %		50-130	"	"	"
<b>0403025-01 : OC2-MW7A-W-0-20 Water Sampled: 03/05/04 08:10 Received: 03/08/04 10:35</b>								
Semivolatile Organic Compounds by EPA Method 8270C								
1,4-Dioxane	ND	U	1.1	ug/L	B4C0053	03/09/04	03/12/04	8270C/SOP315
Surrogate: 1,4-Dioxane-d8	4.00		73 %		50-130	"	"	"
<b>0403025-02 : OC2-MW3A-W-0-21 Water Sampled: 03/05/04 08:45 Received: 03/08/04 10:35</b>								
Semivolatile Organic Compounds by EPA Method 8270C								
1,4-Dioxane	0.7	C1, J	1.2	ug/L	B4C0053	03/09/04	03/12/04	8270C/SOP315
Surrogate: 1,4-Dioxane-d8	4.29		74 %		50-130	"	"	"



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Analyte	Result	Qualifiers / Comments	Quantitation Limit	Units	Batch	Prepared	Analyzed	Method
<b>0403025-03 : OC2-IDW-W-0-22 Water Sampled: 03/05/04 09:40 Received: 03/08/04 10:35</b>								
Semivolatile Organic Compounds by EPA Method 8270C								
1,4-Dioxane	12		1.0	ug/L	B4C0053	03/09/04	03/12/04	8270C/SOP315
Surrogate: 1,4-Dioxane-d8	2.86		57 %		50-130	"	"	"



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**Semivolatile Organic Compounds by EPA Method 8270C - Quality Control**  
**EPA Region 9 Laboratory**

**Batch B4C0022 - 3520B CLLE - 1,4-Dioxane**

Blank (B4C0022-BLK1)

Prepared: 03/04/04 Analyzed: 04/02/04

Analyte	Result	Qualifiers / Comments	Quantitation Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
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1,4-Dioxane	ND	U	1.0	ug/L						
Surrogate: 1,4-Dioxane-d8	3.87			"	5.00		77	50-130		

LCS (B4C0022-BS1)

Prepared: 03/04/04 Analyzed: 04/02/04

Analyte	Result	Qualifiers / Comments	Quantitation Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
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1,4-Dioxane	9.0		1.0	ug/L	10.0		90	50-130		
Surrogate: 1,4-Dioxane-d8	4.11			"	5.00		82	50-130		

Matrix Spike (B4C0022-MS2)

Source: 0403009-01

Prepared: 03/04/04 Analyzed: 03/06/04

Analyte	Result	Qualifiers / Comments	Quantitation Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
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1,4-Dioxane	17		2.0	ug/L	19.9	0.5	83	50-130		
Surrogate: 1,4-Dioxane-d8	8.59			"	9.94		86	50-130		

Matrix Spike Dup (B4C0022-MSD2)

Source: 0403009-01

Prepared: 03/04/04 Analyzed: 03/06/04

Analyte	Result	Qualifiers / Comments	Quantitation Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
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1,4-Dioxane	19		2.1	ug/L	21.4	0.5	86	50-130	11	30
Surrogate: 1,4-Dioxane-d8	8.91			"	10.7		83	50-130		

**Batch B4C0053 - 3520B CLLE - 1,4-Dioxane**

Blank (B4C0053-BLK1)

Prepared: 03/09/04 Analyzed: 03/11/04

Analyte	Result	Qualifiers / Comments	Quantitation Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
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1,4-Dioxane	ND	U	1.0	ug/L						
Surrogate: 1,4-Dioxane-d8	3.80			"	4.99		76	50-130		

LCS (B4C0053-BS1)

Prepared: 03/09/04 Analyzed: 03/11/04

Analyte	Result	Qualifiers / Comments	Quantitation Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
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1,4-Dioxane	9.4		1.0	ug/L	9.97		94	50-130		
Surrogate: 1,4-Dioxane-d8	3.89			"	4.99		78	50-130		

**Batch B4C0087 - 3520B CLLE - 1,4-Dioxane**

Blank (B4C0087-BLK1)

Prepared: 03/12/04 Analyzed: 03/15/04



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**Semivolatile Organic Compounds by EPA Method 8270C - Quality Control  
EPA Region 9 Laboratory**

**Batch B4C0087 - 3520B CLLE - 1,4-Dioxane**

Analyte	Result	Qualifiers / Comments	Quantitation Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
1,4-Dioxane	ND	U	1.0	ug/L						
Surrogate: 1,4-Dioxane-d8	3.54			"	5.00		71	50-130		

**LCS (B4C0087-BS1)**

Prepared: 03/12/04 Analyzed: 03/15/04

Analyte	Result	Qualifiers / Comments	Quantitation Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
1,4-Dioxane	9.3		1.0	ug/L	10.1		92	50-130		
Surrogate: 1,4-Dioxane-d8	3.85			"	5.04		76	50-130		





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**Qualifiers and Comments**

J	The reported result for this analyte should be considered an estimated value.
C1	The reported concentration for this analyte is below the quantitation limit.
A3	The sample was extracted/analyzed past the recommended holding time.
U	Not Detected
NR	Not Reported



